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# (12) United States Patent Herbach et al.

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# (54) DETECTING THAT AN AUTONOMOUS VEHICLE IS IN A STUCK CONDITION

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(58) Field of Classification Search

See application file for complete search history.

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#### (57) ABSTRACT

An autonomous vehicle may determine that a speed of the autonomous vehicle is less than or equal to a threshold speed, and that the autonomous vehicle has not detected a traffic control signal. The autonomous vehicle may identify a cause C for the speed to be less than or equal to the threshold speed. The autonomous vehicle may start a timer T that is based on the cause C. After the timer T expires, the autonomous vehicle may determine whether the cause C remains as a cause for the speed to be less than or equal to the threshold speed. After determining that the cause C remains the cause for the speed to be less than or equal to the threshold speed, the autonomous vehicle may send an assistance signal indicating a stuck condition.

## 20 Claims, 19 Drawing Sheets

